

Customer No.: 31561
Docket No.: 11285-US-PA
Application No.: 10/605,238

In The Claims:

Claim 1 (currently amended) A method of reworking integrated circuit devices, suitable for reworking a barrier layer, a conductive layer and an anti-reflective layer formed on a dielectric layer, the method comprising:

performing a dry etching process for removing the anti-reflective layer;

performing a wet etching process using an etching solution for removing the conductive layer, wherein

the etching solution contains sulfuric acid when the material of the conductive layer comprises Al, Al-Cu alloy, Al-Si-Cu alloy or tungsten; and

the etching solution containing nitric acid when the conductive layer comprises Cu; and
removing the barrier layer.

Claim 2 (original) The method of reworking integrated circuit devices of claim 1, wherein the material of the anti-reflective layer is selected from a group consisting of Ti/TiN, amorphous silicon and Ta/TaN, and the dry etching process for removing the anti-reflective layer is performed using a gas source selected from a group consisting of Cl_2 , BCl_3 , hydrocarbon containing halogen and SF_6 .

Claim 3 (currently amended) The method of reworking integrated circuit devices of claim 2, wherein the hydrocarbon containing halogen comprises CHF_3 or CCl_4 .

Claims 4-7 (canceled)

Claim 8 (currently amended) The method of reworking integrated circuit devices of claim 2, wherein the step of removing the barrier layer comprises performing a chemical mechanical polishing process.

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Claim 9 (original) The method of reworking integrated circuit devices of claim 8, wherein the chemical mechanical polishing process uses a polishing slurry comprising aluminum oxide and hydrogen peroxide.

Claim 10 (original) The method of reworking integrated circuit devices of claim 1, wherein the step of removing the barrier layer comprises performing a chemical mechanical polishing process.

Claim 11 (original) The method of reworking integrated circuit devices of claim 10, wherein the chemical mechanical polishing process is performed using a polishing slurry comprising aluminum oxide, hydrogen peroxide and ammonium hydroxide.

Claim 12 (currently amended) A method of reworking integrated circuit devices, suitable for reworking a barrier layer, a conductive layer and an anti-reflective layer formed on a dielectric layer, the method comprising:

removing the anti-reflective layer;

performing a wet etching process for removing the conductive layer; and

performing a chemical mechanical polishing process using a polishing slurry comprising aluminum oxide, hydrogen peroxide and ammonium hydroxide for removing the barrier layer.

Claims 13-14 (canceled)

Claim 15 (original) The method of reworking integrated circuit devices of claim 12, wherein the material of the conductive layer comprises Al, Al-Cu alloy or Al-Si-Cu alloy, and the wet etching process for removing the conductive layer is performed using an etching solution containing sulfuric acid.

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Claim 16 (original) The method of reworking integrated circuit devices of claim 12, wherein the material of the conductive layer comprises tungsten, and the wet etching process for removing the conductive layer is performed using an etching solution containing sulfuric acid.

Claim 17 (original) The method of reworking integrated circuit devices of claim 12, wherein the conductive layer comprises Cu, and the wet etching process for removing the conductive layer is performed using an etching solution containing nitric acid.

Claim 18 (currently amended) A method of reworking integrated circuit devices, suitable for reworking a barrier layer, a conductive layer and an anti-reflective layer formed on a dielectric layer, the method comprising:

removing the anti-reflective layer;

removing the conductive layer; and

performing a chemical mechanical polishing process using a polishing slurry comprising aluminum oxide, hydrogen peroxide and ammonium hydroxide for removing the barrier layer.

Claim 19 (canceled)

Claim 20 (new) The method of reworking integrated circuit devices of claim 18, wherein the step of removing the anti-reflective layer is performed by a dry etching process.

Claim 21 (new) The method of reworking integrated circuit devices of claim 20, wherein the material of the anti-reflective layer is selected from a group consisting of Ti/TiN, amorphous silicon and Ta/TaN, and the dry etching process is performed by using a gas source selected from a group consisting of Cl₂, BCl₃, hydrocarbon containing halogen and SF₆.

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Claim 22 (new) The method of reworking integrated circuit devices of claim 21, wherein the hydrocarbon containing halogen comprises CHF_3 or CCl_4 .

Claim 23 (new) The method of reworking integrated circuit devices of claim 12, wherein the step of removing the anti-reflective layer is performed by a dry etching process.

Claim 24 (new) The method of reworking integrated circuit devices of claim 23, wherein the material of the anti-reflective layer is selected from a group consisting of Ti/TiN, amorphous silicon and Ta/TaN, and the dry etching process is performed by using a gas source selected from a group consisting of Cl_2 , BCl_3 , hydrocarbon containing halogen and SF_6 .

Claim 25 (new) The method of reworking integrated circuit devices of claim 24, wherein the hydrocarbon containing halogen comprises CHF_3 or CCl_4 .